MANPRINT
Newsletter
Spring/Summer 2004

The Director's Corner

There are several developments in the MANPRINT community that I would like to share with you.

First, and most importantly, plans are now underway for the MANPRINT Practitioners' Workshop. Please make every effort to participate and attend this event. It will be held 17-19 August at the Doubletree Hotel, located on Army Navy Drive, across the street from the Pentagon. The location is also close to a metro stop. The call for papers and awards is out (available at www.manprint.army.mil). We have a tentative list of guest speakers whom I believe will be both quite impressive and relevant to the MANPRINT mission.

Marjorie Zelko, Teresa Hanson, Crystal Newsome, and I attended the Winter Meeting of AUSA in Ft. Lauderdale. It was the first time in many years that personnel from this office attended that meeting. It turned out to be an excellent meeting to attend. I was able to have serious discussions with both contractor personnel working on key systems and important representatives of both ASA(ALT) and TRADOC. For example, Ms. Zelko and I received a virtual demonstration of FCS capabilities and were able to convert that event into an expanded discussion of modeling needs for NLOS-C and FCS, in general. Thanks to further efforts by Dave Harrah of HRED, HRED will now analyze NLOS-C to see if a 2-man crew is sufficient. We also received other demonstrations of WIN-T, XM-8, JTRS, and several vehicles. Because we were able to talk with so many key people, we plan to return to this meeting again.

Taylor Jones has now completed our short-term plans to better support HSI education at the Defense Acquisition University. Three DAU courses are approved for changes. Information on those courses is presented elsewhere in the Newsletter. It is important to note that although the MANPRINT Directorate will continue to examine the DAU curriculum looking for opportunities for improvement, the current accomplishment has occurred far earlier than we expected.

Many of you are familiar with my belief that strong HSI programs in the other services are essential to the strength of our own program. To that end we have worked closely with the Navy in helping them on several issues. Now the Air Force is more interested in an HSI program. I recently briefed the AF Scientific Activities Board on why the Army has a MANPRINT program, the successes that it has had, and what characteristics have made it a success. The Board indicated to me that they expected to recommend that the AF create an HSI program, although its form may be somewhat different than what is in the Army or Navy. We continue to cooperate with the Navy. Our newest plan is to write a new version of AR 602-2. We will identify parts of that regulation that can be identical for both AR 602-2 and for the Navy equivalent of 602-2.

Michael Drillings
Director for MANPRINT

Taylor Jones, who has done such an excellent job as the deputy director of MANPRINT

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Navy Initiates SEAPRINT Program

By Nancy Dolan,
Navy HSI Office/N12 Acquisitions Programs Branch (N125)

Last year the Navy initiated the Systems Engineering, Acquisition and Personnel Integration (SEAPRINT) program, their equivalent of the Army's MANPRINT program. In the same manner that MANPRINT defines a soldier centered approach to materiel development and implements DoD Human Systems Integration (HSI) policy, the SEAPRINT program will provide a standardized Navy approach to ensuring systems engineers treat Sailors as an integral component, and design systems that optimize human performance and minimize lifecycle costs.

The 2003 National Defense Authorization Act (NDAA) included a requirement for the Navy to look at Army's MANPRINT philosophy and evaluate the Army Improved Research Integration Tool (IMPRINT) for possible Navy use. IMPRINT is used by the Army to estimate system performance as a function of workload, soldier characteristics, stressors and task time and accuracy standards. To meet the NDAA requirement, Navy defined a process and developed a framework for HSI implementation within acquisitions, then conducted a case study based around IMPRINT to exercise a portion of the process. The project leveraged the lessons learned from Army's MANPRINT program and IMPRINT experiences. This provided practical experience and application leading to a refined and executable process.

The SEAPRINT program is based on seven program management and

1. Initiating HSI Considerations Early in an Acquisition – During Functional Area Analysis and Initial Capability Definition
2. Recognition of HSI Issues and Planning for Resolution – Including an Audit Trail and SEAPRINT/HSI Management Plan
3. Explicit and Consistent Performance Requirements – Tracked in a Requirements Traceability Matrix
4. An Integrated Technical Process – Bringing Together Domain Analyses and Integrated with Systems Engineering
5. Pro-Active Trade-Offs During Design – Utilizing a Target Audience Description (TAD) and Human Task Network Modeling Tools
6. HSI as a Factor in Contracting and Source Selection – To Ensure Industry Partners Understand the Importance of HSI
7. HSI Milestone Assessments – To Ensure HSI Is Continually and Rigorously Addressed

The SEAPRINT program will be managed by a small team of HSI practitioners in the Office of the Deputy Chief of Naval Operations (Manpower & Personnel). The program will be executed by the Navy HSI Community with specific responsibilities for integration into materiel development residing with the major Systems Commands (SYSCOMs).

The case study centered on the new propeller system for the E2C aircraft. The E-2C provides airborne surveillance and command-and-control support for the Navy and Marine Corps. Propeller maintenance was selected because a new propeller, the NP-2000, was in development and allowed use of IMPRINT models for both the legacy and new propeller systems. The case study used manpower and workload modeling and simulation techniques in conjunction with the Army IMPRINT model as a basis for assessing design configurations and maintenance in terms of human performance. The case study team included: Human Factors Engineers from Naval Air Systems Command (NAVAIRSYSCOM), Manpower experts from the Navy

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Preliminary case study findings show clear potential for IMPRINT human performance models to demonstrate the impact of design changes, refinements and improvements for Navy system acquisitions. The case study also indicates that the alignment of tools from human engineering, manpower, personnel, and training is possible and beneficial. In fact, a significant outcome of the case study was a mapping of operator knowledge, skills, and abilities (KSAs) from the SkillsNET™ taxonomy to task attributes modeled in IMPRINT. Specifically, SkillsNET™ abilities were matched with IMPRINT taxons. This matching allowed comparison of job task requirements derived from design with availability of personnel with the knowledge, skills and abilities to perform the tasks. Combined with existing IMPRINT personnel predictions, the matching of taxons and abilities enables tradeoffs among system design, personnel and training can be quantified. Although further research is required, the potential to adapt IMPRINT for Navy use clearly exists. Based on the case study, it was concluded that several modifications to IMPRINT would be needed for full Navy application. These include accommodation for Navy related equipment, operational profiles, sea state and wind over deck.

In the interest of minimizing support and development costs, and facilitating configuration management, technical support, and software engineering, Navy specific modules will be added to IMPRINT.

The results from this case study, and the initial application of SEAPRINT on full-scale acquisition programs, illustrate the potential and benefit of a single, standardized, human capability-based approach to Navy HSI. SEAPRINT provides a truly integrated process that supports human integration throughout an acquisition's life-cycle – from capability definition through personnel delivery.

SEAPRINT POC: Ms. Nancy Dolan, Head, Navy HSI Office/N12 Acquisitions Programs Branch (N125), 703-614-5781, nancy.dolan@navy.mil

MANPRINT Practioners Workshop "Transforming for the Soldier" 17-19 August 2004

The 2004 MANPRINT Workshop is scheduled for Tuesday, 17 August through Thursday, 19 August at the DoubleTree Hotel in Arlington, Virginia. This year's workshop will have much the same format as last years, two and one-half days with the last 2 half days devoted to practitioner presentations. Please see the call for presentations that follows for more details on this. If you or someone you know is interested, please take the time to send your abstracts to us. It is your experiences and information that truly make the workshop educational for us all.

This also means its time to nominate your co-workers and friends for the Navy MANPRINT Award. So if there is someone you would like to recognize for a "job well done" please take the time to nominate for this award.

For more information and to register for the workshop, visit the website, www.manprint.army.mil. Registration and Reservations are the responsibility of each individual who plans to attend. The registration form is on the website, please complete the form, hit send, and within 2-3 days you should receive a confirmation that your registration has been received. To make hotel reservations, contact the hotel directly and be sure to mention that you are with the MANPRINT group to ensure you receive the government lodging rate.

We sincerely hope to see all of you in August.

CALL FOR PRESENTATIONS

MANPRINT Practitioners' Workshop

"Transforming for the Soldier"

DoubleTree Hotel – Crystal City, Arlington, Virginia
August 17-19, 2004

Two half-day sessions at the Workshop will be devoted to presentations by individuals in the MANPRINT community (YOU). The goal is to share your experiences, insights, lessons learned, etc., with other Practitioners. These sessions will complement the overall theme of the conference. Copies of the presentation materials will be posted on the MANPRINT web site after the Workshop. Written papers are not required, but would certainly be posted as well, if the author(s) so desire(s).

Topic Areas

1. MANPRINT Applications
   Success Stories
   - Challenges
   - Opportunities
   - ...

2. Changes in….for HSI Transformation
   - Teaming/Staffing
   - Techniques
   - Testing
   - Training

Important Dates

Abstract Deadline	1 July 2004
Notice of Acceptance	15 July 2004

Submission of Abstracts

Please submit abstracts electronically by July 1, 2004 and include the following detailed information:

1) name and address of author(s)
2) organization, address, phone/fax numbers, e-mail
3) title of presentation
4) associated conference topic
5) one page summary (100 words or less) describing the scope and major thrust of the presentation.

For questions and abstract submissions please contact:
Crystal.news.cmo@hoda.army.mil

For further information please reference the MANPRINT website at
www.manprint.army.mil

MANPRINT and the Evolving DoD Acquisition Policy

By Daniel J. Imbs

Acquisition Policy has undergone numerous revisions and updates since the Manpower and Personnel Integration (MANPRINT) processes were initiated in 1982. To mark the beginning of this century, a new DoD Acquisition Policy was published in October 2000. The Acquisition and MANPRINT communities revised processes and procedures to adjust to the new requirements.

Just as people began adjusting to these new requirements, another policy change was made. On 30 October 2002, the Deputy Secretary of Defense, Paul Wolfowitz stated, *"...create an acquisition policy environment that fosters efficiency, flexibility, creativity, and innovation."* In October 2002, an Interim DoD Acquisition Policy was published that provided the beginning of the changes to come. The Requirements Documents changed: the Initial Capabilities Document (ICD) replaces the Mission Need Statement (MNS) at Milestone A; the Capability Development Document (CDD) replaces the Operational Requirements Document (ORD) for Milestone B; and the Capability Production Document (CPD) replaces the ORD for Milestone C.

In May 2003, a new DoD Acquisition Policy was published that brought even more change. The Acquisition Model changed from four to five phases along with changes in acquisition terminology.

Sometimes change is difficult and hard to accept; however, business practices and technology will always

long number of years (often times 10+) to be fielded.

The intent of the new acquisition policy is to speed up development and fielding of new systems without sacrificing the capability and quality while capturing up-to-date technologies. The revised Acquisition Policy Objectives, as quoted from the 14 May 03 Defense Acquisition University (DAU), are:

- Encourage innovation and flexibility
- Permit greater judgement in the employment of acquisition principles
- Focus on outcomes versus process
- Empower PMs to use the system versus being hampered by over-regulation

From a positive perspective, the DoD Instruction (DoDI) 5000.2, "Operation of the Defense Acquisition System, 12 May 2003, Enclosure 7, Human Systems Integration (HSI)," provides the MANPRINT community many opportunities to ensure that soldiers and other members of the Target Audience remain the centerpieces of system acquisition. However, the document does not provide substantive guidance as to "how" to accomplish the requirements.

There is a slight difference in analytical approaches between Army and Joint Military Service system acquisition. The Army uses analysis of doctrine, training, leader development, organization, materiel, and soldiers (DTLOMS) for the capability needs and acquisition of new systems. Joint military service concepts use DOTMLPF which is explained in this extract from the DoDI 5000.2, Paragraph 3.4.1, "The capability needs and acquisition management systems shall use Joint Concepts, integrated architectures, and an analysis of doctrine, organization, training, materiel,

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Many of these “tools” can be effectively used under the new DoD Acquisition Policy. Some examples include:

The MANPRINT Directorate (www.manprint.army.mil)

*MANPRINT Guidebook
*MANPRINT in Acquisition
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Human Research & Engineering Directorate (HRED) (www.arl.army.mil/ARL-Directorates/HRED/hred.html)

*The Mathematical Ear Model (Airbag)
*JACK – The Human for Computer Aided Design
*IMPRINT – Improved Performance Research Integration Tool
***

U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM) (http://chppm-www.apgea.army.mil/)

*PM CD-ROM Resource Set
*Multiple Titled Publications and Health Information
***

United States Army Human Resources Command (HRC) (https://www.perscomonline.army.mil/DCSOPS/DCSOPS_MANPOWER.htm)

Please note that the HRC internet link is secure and that you may need to copy the link to the web browser to access the address

*MPT Guide (revised)
*TAD Development Diagram
*MPT/MANPRINT Process Chart (Under revision)
*System Documentation Guide (Under revision)
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The MANPRINT Domains must continue to be flexible and innovative in development of new tools, models, processes and analysis that support system development. There is always a need to improve MANPRINT tools and guides to support the Acquisition Community’s efforts in keeping up with changing or new business practices. Change is a constant factor in today’s technological arena.

Visit the AT&L (Acquisition, Technology & Logistics) Knowledge Sharing System (AKSS) to view current and upcoming changes in the acquisition information at:
http://deskbook.dau.mil/jsp/default.jsp

Meetings of Interest

2004 MANPRINT Practitioners' Workshop

"Transforming For The Soldier"

17-19 August 2004

Doubletree Crystal City

300 Army Navy Drive
Arlington, VA 22202-2891
(703) 416-4100

AUSA Annual Meeting and Exhibition

25-27 October 2004

Washington Convention Center
Washington, DC

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Ms. Crystal Newsome (MTC Contractor) crystal.newsome@hqda.army.mil	225-5820	703-695-5820

MANPRINT Training Schedule

MANPRINT ACTION OFFICER'S COURSE (MAOC)

CLASS	START DATE	END DATE	LOCATION
2004-704	07 Jun 2004	11 Jun 2004	Aberdeen Proving Ground, MD
2004-705	12 Jul 2004	16 Jul 2004	Ft. Bliss, TX
2004-002	02 Aug 2004	06 Aug 2004	ALMC, Fort Lee, VA
2005-702	25 Oct 2004	29 Oct 2004	Ft. Leonard Wood, MO
2005-001	24 Jan 2005	28 Jan 2005	ALMC, Ft. Lee, VA
2005-703	14 Feb 2005	18 Feb 2005	Ft. Bragg NC
2005-704	06 Jun 2005	10 Jun 2005	Aberdeen Proving Ground, MD
2005-705	27 Jun 2005	01 Jul 2005	Ft. Bliss, TX
2005-002	11 Jul 2005	15 Jul 2005	ALMC, Ft. Lee, VA
2005-706	12 Sep 2005	16 Sep 2005	Huntsville, AL

MANPRINT TAILORED TRAINING (APPLICATIONS COURSE)

CLASS	START DATE	END DATE	LOCATION
2004-707	21 Sep 2004	23 Sep 2004	Warren, MI
2005-707	05 Oct 2004	07 Oct 2004	Ft. Gordon, GA
2005-701	16 Nov 2004	18 Nov 2004	Ft. Bliss, TX
2005-702	07 Dec 2004	09 Dec 2004	Aberdeen Proving Ground, MD
2005-703	11 Jan 2005	13 Jan 2005	National Capitol Region
2005-704	15 Mar 2005	17 Mar 2005	Huntsville, AL
2005-705	03 May 2005	05 May 2005	Ft. Rucker, AL
2005-001	16 May 2005	18 May 2005	ALMC, Ft. Lee, VA
2005-706	23 Aug 2005	25 Aug 2005	Warren, MI

(POC: Mr. Pat Wilson, COM (804) 765-4373, DSN 539-4373)

Did You Know?.....

- Effective this summer, Defense Acquisition University (DAU) attendees may now study Human Systems Integration (HSI) in three updated curriculums. These courses were updated by a combined team of MANPRINT, SEAPRINT, and DAU subject matter experts. Courses where HSI modules/chapters are included are:
  - LOG 201 (Distance Learning)
  - TSE 202 (Distance Learning)
  - SYS 301 (Resident Course)

- Dr. Paul H. Deitz was named Director of the U.S. Army Research Laboratory's (ARL) Survivability/Lethality Analysis Directorate (SLAD) in March of 2004. He has a Ph.D. in Electrical Engineering from the University of Washington, Seattle, WA. Dr. Deitz has had continuous employment at the USA Ballistic Research Laboratory (BRL) from June 1964 to October 1997 (the BRL was reorganized into ARL in September 1992) followed by the USA Materiel Systems Analysis Activity (AMSAA) where he served until his recent appointment.

- The MANPRINT Directorate welcomes current MANPRINT-related news, information, and articles to use for publication in our MANPRINT Newsletter. Please contact Lynne Compton, lcompton@maxtc.com or Crystal Newsome, crystal.newsome @hqda.army.mil for more information and submission guidelines.

MANPRINT INFORMATION

Articles, comments, and suggestions are welcomed and are to be submitted through the MANPRINT Contractor: MANPRINT Newsletter, Maximum Technology Corporation, 4910 University Square, Suite 4, P.O. Box 11817, Huntsville, AL 35814-1817; COM (256) 864-7630, FAX (256) 722-2149, E-mail: MANPRINT@hqda.army.mil

MANPRINT Web Site: http://www.manprint.army.mil

POLICY: Department of the Army, G1, ATTN: DAPE-MR, 300 Army Pentagon, Washington, DC 20310-0300, DSN 225-5848, COM (703) 695-5848.

DIRECTORY OF DESIGN SUPPORT METHODS: Defense Technical Information Center–MATRIS Office, DTIC-AM, NAS NI Bldg, 1482, Box 357011, San Diego, CA 92135-7011, DSN 735-9414, COM (619) 545-9414, E-mail: ddsm@dticam.dtic.mil, and web site: http://dticam.dtic.mil/hsi/

MANPRINT DOMAIN POCs

MANPOWER, PERSONNEL & TRAINING: Mr. Wayne Cream, U.S. Army Human Resources Command, ATTN: AHRC-PLC-M, Alexandria, VA 22332-0406, DSN 221-2026 or 221-6489, COM (703) 325-2026, FAX: (703) 325-0657, E-mail: wayne.cream@hoffman.army.mil

HUMAN FACTORS ENGINEERING: Mr. Frank R. Paragallo, Chief, Human Factors Integration Division, HRED, Army Research Laboratory, ATTN: AMSRL-HR-M, Bldg. 459, Aberdeen Proving Ground, MD 21005-5425, DSN 298-5802, COM (410) 278-5802, FAX (410) 278-0505, E-mail: frp@arl.army.mil

SYSTEM SAFETY: LTC Tom DeVine or Mr. Jim Gibson, Office of the Chief of Staff, Army Safety Office, ATTN: DACS-SF, 2211 S Clark Street, Crystal Plaza 5, Room 980, Arlington, VA 22202, DSN 329-2411 or 329-2409, COM (703) 601-2411 or (703) 601-2409, FAX (703) 601-2417, E-mail: thomas.devine@hqda.army.mil or james.gibson@hqda.army.mil

HEALTH HAZARDS: MAJ Timothy Kluchinsky, Jr., U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM), ATTN: MCHB-TS-OHH, 5158 Blackhawk Road, Bldg. E1570, Aberdeen Proving Ground, MD 21010-5403, DSN 584-2925, COM (410) 436-2925, FAX (410) 436-1016. E-Mail: timothy.kluchinsky@apg.amedd.army.mil

SOLDIER SURVIVABILITY: Mr. Richard Zigler, U.S. Army Research Laboratory, ATTN: AMSRL-SL-BE, Aberdeen Proving Ground, MD 21005-5068, DSN 298-8625, COM (410) 278-8625, FAX: 278-9337, E-mail: rziguer@arl.army.mil

Dr. Michael Drillings
Acting Director for
MANPRINT

The MANPRINT Newsletter is an official bulletin of the Department of the Army. The Manpower and Personnel Integration (MANPRINT) program (AR 602-2) is a comprehensive management and technical initiative to enhance human performance and reliability during weapons system and equipment design, development and production. MANPRINT encompasses seven key domains: manpower, personnel, training, human factors engineering, system safety, health hazards and soldier survivability. The focus of MANPRINT is to integrate technology, people and force structure to meet mission objectives under all environmental conditions at the lowest possible life-cycle cost. Information contained in this bulletin covers policies, procedures, and other items of interest concerning the MANPRINT Program. Statements and opinions expressed are not necessarily those of the Department of the Army. This bulletin is prepared twice yearly under contract for the MANPRINT Directorate, G1, under the provisions of AR 25-30 as a functional bulletin.

READER'S RESPONSE

Use this space to record changes, additions or deletions. Send your information to the MANPRINT Contractor, Maximum Technology Corporation (MTC) by Fax (256) 722-2149 or Mail (fold on designated line and close (do not staple) with the MANPRINT Newsletter address on the Outside). If you are a MANPRINT POC for your organization, please check the MANPRINT POC block.

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